On some *Aradidae* from Africa and Polynesia
(Hem. Heteroptera)

BY

NICHOLAS A. KORMILEV.

(Brooklyn, N. Y.)

By the kind offices of Dr. Jacques Carayon of Museum National d'Histoire Naturelle, Paris, Sr. Eugenio Morales Agacino of Instituto Español de Entomología, Madrid, and Mr. Dennis Leston of Cocoa Research Institute, Ghana Academy of Science, Tafo, Ghana, to whom I express my sincere gratitude, I have had a privilege to study a few Aradids from Wallis Islands (Polynesia), Cameroons, Fernando Poo, and Ghana. Among these Aradids three species were new, and are described else where in this paper. From others, the most interesting were: *Neasterocoris lutulensis* Usinger and Matsuda, 1959, and *Strigocoris schoutedeni* Usinger, 1954.

The genus *Neasterocoris* Usinger and Matsuda, 1959, was established on the base of a single specimen, female, from San Benito, collected in 1885, and belonging to the collections of the Museum in Paris. No country was mentioned. *Neasterocoris* is related to the Neotropical genus *Asterocoris* Drake and Harris, 1944. The name of San Benito is rather common in Latin America, we can find it in Mexico, Guatemala, Colombia, and Uruguay, so it was natural that Usinger and Matsuda considered it also as Neotropical.

The specimen, which I could examine, is also a female, but not from America, it was collected some 30 years ago on Fernando Poo, so that we may assume that *Neasterocoris* is an Ethiopian genus (*).

The genus *Strigocoris* Usinger, 1954, is Ethiopian, and is notable by a very peculiar stridulatory apparatus, consisting of a knife-like ridge on the hind femora, and in opposition to it of a file of prominent, stiff teeth forming an arcuate comb on the sternum IV.

(*) In Spanish Guinea there is Rio Benito.

Subfam. **Mezirinae** Oshanin, 1908.

Gen. **Euchelonocoris** Hoberlandt, 1948.

1. **Euchelonocoris elongatus** Usinger and Matsuda.

Euchelonocoris elongatus Usinger and Matsuda, 1959; Class. Aradidae, p. 213.

4 ♂, Kamerun (Cameroons) — L. Conradt, 1899; Instituto Español de Entomología, Madrid.

Gen. **Strigocoris** Usinger, 1954.

1. **Strigocoris schoutedeni** Usinger.

Strigocoris schoutedeni Usinger, 1954; Ann. Mus. Roy. Congo Belge Tervuren, N. S. in 4° Sci. Zool., 1: 540.

1 ♂, Ghana, Tafo — D. Leston coll. 2.VII.1965; 1 ♀, Ghana, Tafo, Wacri, in Cocoa plantation — Amg, May 1963.

Gen. **Neuroctenus** Fieber, 1861.

1. **Neuroctenus lestoni** sp. nov.

(Figs. 1-3.)

Male. Elongate ovate, flat, finely granulate.

Head slightly shorter than width through the eyes (♂-20: 23, ♀-23: 24.5). (In this, and the following descriptions, 25 units = 1 mm.; first figure indicates the length, and the second the width of measured part; length of abdomen is taken from the tip of scutellum to the tip of hypopygium, or segment IX in the female). Anterior process with lateral borders converging forward, tip truncate, and slightly notched in the middle; reaches to 2/3 of antennal segment I. Antenniferous tubercles acute, with parallel outer borders; reach to 1/4 of antennal segment I. Eyes semiglobose, moderately prominent. Postocular tubercles blunt, do not reach, or almost reach, to outer borders of the eyes.

Vertex transversely rugose, and granulate. Antennae less than twice as long as the head (♂-39: 20, ♀-39.5: 23); proportions of the antennal segments, I to IV, are: ♂-8.5: 7.5: 11: 10.5, ♀-10: 8: 11: 10.5. Rostrum short, does not reach to hind border of rostral groove.

Pronotum less than half as long as its maximal width (♂-21: 48, ♀-20: 48). Collar narrow, sinuate in front. Antero-lateral angles rounded, and slightly produced beyond the collar; lateral borders distinctly sinuate in the middle, slightly convex at humeri. Fore lobe with four (2 + 2) semiobliterated elevations. Both lobes evenly granulate.

Scutellum triangular, shorter than width at the base (♂-24: 31, ♀-24: 32). Lateral borders straight; basal border convex; all three finely carinate; tip subangular; disc transversely rugose in apical 2/3, longitudinally rugose in basal 1/3.

Hemelytra reach to fore border of tergum VII in both sexes. Apical angle of corium acute; apical border twice sinuate.

Abdomen longer than its maximal width across segment IV (♂-82: 62, ♀-90: 65). Exterior borders of connexiva straight; PE-angles angulary produced. Paratergites in the male, almost reaching to the tip of hypopygium; the latter small, narrower than the head (18: 23), rounded posteriorly, and a little flattened. Paratergites in the female subtriangular, reaching to 2/3 of segment IX; the latter deeply notched posteriorly.

Color dark brown; rostrum, connexivum from above, most of the ventral side of body, trochanters, tibiae, and tarsi, are reddish brown; membrane black.

Total length: ♂-5.92, ♀-6.80 mm.; width of pronotum: ♂-1.92, ♀-1.92 mm.; width of abdomen: ♂-2.48, ♀-2.60 mm.

Holotype: ♂, Ghana, Mt Atewa — D. Leston coll. 7.IX.1965; deposited in the collection of the author.

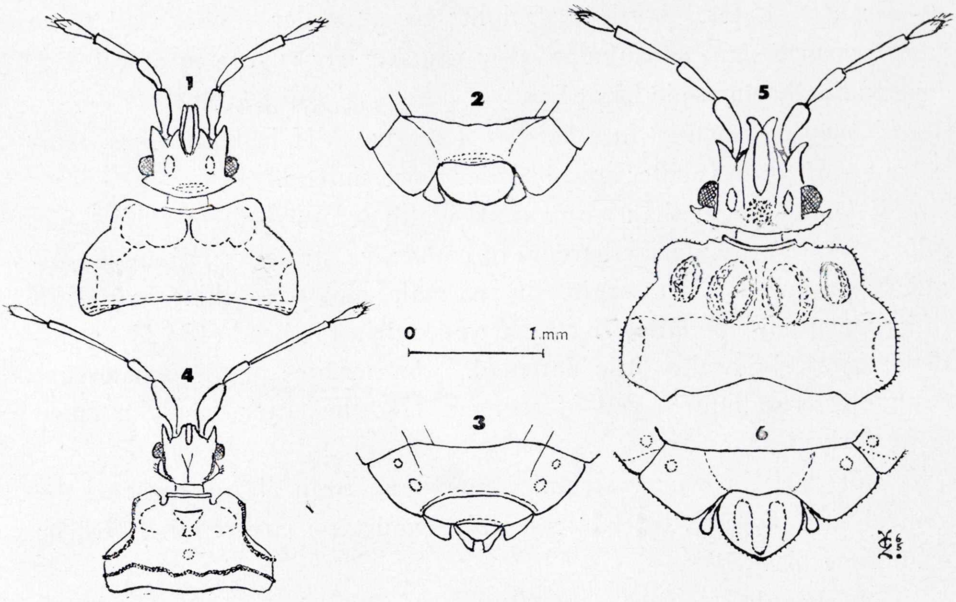
Allotipe ♀, and *Paratypes* 1♂ and 1♀, collected with the holotype; in the same collection.

It is a pleasure to dedicate this species to its collector Mr. Dennis Leston.

Neuroctenus lestoni sp. nov. is somewhat related to *N. congoensis* Hoberlandt, 1956, but may be separated from it by: relatively shorter anterior process of the head; slightly sinuate lateral borders of the pronotum; straight lateral borders of scutellum, and by a deeply cut out segment IX of the female.

Gen. **Usingeria** Schouteden, 1952.

Usingeria Schouteden is a small genus firstly described from Congo, but later found also on Madagascar. Usinger and Matsuda (1959: 229) mentioned that they had seen species from Cameroons and Fernando Poo. *Usingeria* is closely related to an Oriental and Australian genus *Acoryphocoris* Usinger and Matsuda, 1959. The species at hand is from Cameroons, and probably identical with species seen by Usinger and Matsuda.



Figs. 1-6.—*Neuroctenus lestoni* sp. nov.: 1) head and pronotum, ♂; 2) tip of abdomen, ♂; 3) tip of abdomen, ♀; *Usingeria moralesi* sp. nov.: 4) head and pronotum, ♂; *Mezira ghanaensis* sp. nov.: 5) head and pronotum, ♂; 6) tip of abdomen, ♀.

1. **Usingeria moralesi** sp. nov.

(Fig. 4.)

Male. Elongate ovate, partially covered with incrustation.

Head much shorter than width through the eyes (13: 17). Anterior process short, truncate anteriorly, reaching to the tips of antenniferous tubercles. The latter parallel, acute, reaching to 1/4 of antennal segment I. Eyes semiglobose, protruding. Postocular borders rounded, and bearing a few incrustated bristles. Vertex with a thin, Y-shaped, median carina. From the inner borders of the eyes run backward to posterior border of the head two (1 + 1) high, and narrow carinae, formed by a row of incrustated bristles glued together. Antennae long, and moderately stout, more than three times as long as the head (44: 13). Proportions of antennal segments, I to IV, are: 11 : 7 : 18 : 8. Rostrum short, reaching to hind border of rostral groove; the latter is closed posteriorly.

Pronotum half as long as its maximal width (20: 40), and is divided into two lobes by a thin, transverse sulcus. Fore lobe is much narrower and lower than hind lobe (26: 40). Collar separated from the disc by a thin, transverse depression, or sulcus. Anterolateral angles produced into relatively large, trapezoidal, obliquely, placed, lobes, which are truncate anteriorly, exteriorly and posteriorly. Fore disc with two (1 + 1) short, longitudinal ridges separated from each other by a deep, median sulcus. Hind lobe with a thin, transverse, sinuate carina, running across the lobe from one side to other. Similar carinae run from lateral, interlobal notch backward, and sideways, reaching humeri a little in front of transverse carina. In front of transverse carina is placed on median line a small, round elevation.

Scutellum half as long as its width at the base (11: 22). Basal border carinate, sinuate in the middle, and convex laterally. Lateral borders reflexed; tip rounded. Disc with a high, and thin median carina.

Hemelytra reach to the base of hypopygium. Corium is truncate posteriorly, but its outer border is produced backward as a thin carina reaching to PE-II (postero-exterior angle of connexivum II). Membrane is large, opaque, without distinct veins.

Abdomen much longer than its maximal width (60: 43). PE- angles II to VII dentiform. Spiracles II lateral and visible from above; III to VI ventral and not visible from above; VII sublateral and visible; VIII terminal. Paratergites very small, conical. Hypopygium large (13: 14), caudal in position; with a triangular ridge on upper surface, the latter does not reach to the tip of hypopygium.

Pro, meso, and *metasternum* depressed medially. Venter with sterna II to VI depressed on fore half, and provided with numerous, thin, longitudinal carinae; hind half of sterna is elevated and glabrous. Sternum VII is large, convex, and glabrous.

Legs unarmed.

Color: brown; ventral side yellow brown.

Total length — 4.6 mm.; width of pronotum — 1.6 mm.; width of abdomen — 1.72 mm.

Holotype: ♂, Kamerun (Cameroons) — L. Conradt coll.; deposited in the collections of the Instituto Español de Entomología, Madrid.

It is a pleasure to dedicate this species to Sr. Eugenio Morales Agacino, secretary of the Institute mentioned above.

Usingeria moralesi sp. nov. is related to *U. mirabilis* Schouteden, 1952, from Congo, but is larger, and has different proportions of antennal segments.

Gen. **Neasterocoris** Usinger and Matsuda, 1959.

1. **Neasterocoris lutulentus** Usinger and Matsuda.

Neasterocoris lutulentus Usinger and Matsuda, 1959, Class. Aradidae; p. 334, fig. 95.

1 ♀, Fernando Poo, Botonós — F. Bonet and J. Gil coll., I.1933 (Instituto Español de Entomología, Madrid).

Gen. **Mezira** Amyot and Serville, 1843.

1. **Mezira membranacea** F.

Aradus membranaceus Fabricius, 1803, Syst. Rhyng., p. **118**.
Dysodius membranaceus Herrich Schaeffer, 1848, Wanz. Ins., **8**: 122.
Crimia niger Dohrn, 1860, Stett. ent. Zeit., **21**: 46.
Brachyrhynchus membranaceus Stål, 1868, Hem. Fabr., **1**: 96.
Mezira membranacea Kormilev, 1953, Verh. Naturf. Ges Basel, **64**: 333.

1 ♀, Hawaii, Capoha — G. Santo coll. I.3,1965.

So far no Aradids were ever recorded from Hawaii, the present specimen is the first record. Comparing it with the specimens of *M. membranacea* F. from various countries, it could be seen that it is more similar to specimens from India than to specimens from Indonesia, or Taiwan. We may assume, that it was imported to Hawaii, probably from India.

I express my gratitude to Mr. Peter D. Ashlock of the Bernice P. Bishop Museum, Honolulu, Hawaii, by whose kind office I have had a privilege to examine this specimen.

2. **Mezira micronesica** Esaki and Matsuda.

Mezira micronesica, Esaki and Matsuda, 1951, Mushi, 22: 77, Pl. 9 f. B; Pl. 11 figs. C and D.

4 ♂, Walls Islands, Polynesia — deposited in the Muséum National d'Histoire Naturelle, Paris.

This is the first record of this species from Wallis Islands. *Mezira micronesica* Esaki and Matsuda is widely distributed in Micronesia and New Guinea. As Matsuda and Usinger stated (1957: 170), no specimen either of this species, or *M. membranacea* F., was collected on Mariana Islands, or Guam before 1947, though an extensive collection was there done by Esaki, Swezey, Usinger, and others, so it is a question whether this species is recently introduced to Wallis Islands, as it was introduced to Marianas, or it is an older habitant of these islands?

3. **Mezira ghanaensis** sp. nov.

(Figs. 5-6.)

Male. Elongate ovate; covered with granules, and short, curled, yellow hairs.

Head shorter than width through the eyes (25: 28). Anterior process robust, constricted in the middle, and deeply notched at the tip, reaches to 3/5 of the antennal segment I. Antenniferous tubercles acute, with parallel outer borders, reach to 2/5 of antennal segment I. Eyes semiglobose, prominent. Postocular tubercles crescent- shaped, acute, produced far beyond the outer border of the eyes; width across postocular tubercles is greater than through the eyes (31: 28). Vertex with rough granules, and short, curled hairs. Antennae moderately slender, less than twice as long as the head (47.5: 25); proportions of the antennal segments, I to IV, are: 12: 10.5: 15: 10. Rostrum reaches to hind border of rostral groove.

Pronotum half as long as its maximal width (31: 60). Collar prominent, distinctly produced beyond antero-lateral angles. The latter rounded, serrate, and narrowly expanded, but neither produced forward, nor sideways. Lateral interlobal notch is distinct. Lateral borders of hind lobe parallel at humeri, converging anteriorly. Interlobal depression deep. Fore lobe with four (2 + 2) longitudinal, granulate ridges, and with a deep median depression. Hind lobe roughly granulate. Hind border deeply sinuate; posterior angles produced backward, narrowly rounded at the tips.

Scutellum subtriangular, shorter than its maximal width (28: 35). Basal border convex; lateral borders straight, slightly sinuate at the tip; all three carinate. The tip slightly cut out. Disc depressed at the baso-lateral angles, roundly granulate, and with short, curled hairs. Median carina low, and narrow.

Hemelytra reach to fore border of tergum VII. Baso-lateral borders of the corium parallel and carinate; apical border straight; apical angle rounded; disc with short, curled hairs on its outer 2/3; clavus, and inner 1/3 of corium, without hairs.

Abdomen ovate, longer than its maximal width across segment IV (86: 74). Lateral borders regularly convex, rounded, and serrate. PE-angles of connexiva protruding very little. Paratergites small, clavate, reach to 3/5 of the hypopygium. Hypopygium subcordate, with a narrow median ridge, and deep, longitudinal depressions on each side of it. Spiracles II to VIII ventral, placed far from the border.

Color: dark brown; the base of rostrum, the base of antennal segment I, venter, and tarsal segment I, are reddish brown; posterior borders of connexiva II to VI are yellow. Membrane black, with a large, basal, whitish spot.

Total length — 7.0 mm.; width of pronotum — 2.4 mm.; width of abdomen — 3.0 mm.

Holotype: ♂, Ghana, Tafo — D. Leston coll. 1.VIII.1965; deposited in the collection of the author.

Mezira ghanaensis n. sp. is related to *M. luberoensis* Schouteden, 1952, from which it may be separated by : different proportions of antennal segments, and by a straight apical border of corium.

References.

Matsuda, R., and Usinger, R. L.
1947. Heteroptera: *Aradidae*. in Insects of Micronesia, vol. 7, Núm. 3, pp. 117-172, 13 figs. Bernice P. Bishop Museum.

Usinger, R. L., and Matsuda, R.
1959. Classification of the *Aradidae;* London, British Museum, vii-410 pp. 101 figs.